

Technology in Rural Transportation

A recent study documented more than eighty proven, cost-effective, “low-tech” solutions to rural transportation needs, most developed or implemented by local transportation professionals. One of these solutions is outlined below:



Learn all about the simple solutions on the Internet at <http://inform.enterprise.prog.org>

The simple solutions report is available from Hau To at (503) 892-2533, or email: to@crc-corp.com

Recycled Materials for Road Projects

(Adapted from “How NCDOT Uses Recycled Materials”, *Better Roads*, November 1999)

Overall goal:

To demonstrate to the professional transportation community the feasibility of using recycled materials in large-scale construction projects.

Technical approach:

Since 1991, the North Carolina Department of Transportation (NCDOT) has had a goal of using at least 1 million recycled tires in construction projects every year. Through the use of tire chips, the department recycled over 1.6 million tires in 1999. Coming off of this success, NCDOT decided to showcase their innovation in the construction of the Raleigh Outer Loop, a stretch of I-540 that bypasses the city of Raleigh.

In addition to tires, NCDOT has used recycled plastic in the manufacture of guardrail offset blocks (used to stabilize the guardrails) and temporary drainage pipes. The agency is also looking into installing recycled plastic delineators that help guide traffic. Asphalt shingles, a byproduct of the asphalt manufacturing process create a long-lasting roadway when added to the asphalt mixture.

Current status:

Construction of the Loop is still underway, with contractors and NCDOT engineers agreeing that the recycled materials perform similarly to traditional materials.

Location / geographic scope:

Along with the Raleigh Outer Loop, a special rest area that exhibits environmentally sound construction is planned along I-85 in Cleveland County.

Agencies involved:

NCDOT, City of Raleigh.

Cost information:

Recycled tires require less processing and therefore are cheaper than other rubber sources. Other recycled materials were donated to the project by city



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**Key contacts:**

agencies.

Have goals been achieved?

Marie Sutton, Resource Conservation Engineer, 919.250.4128.

Solution timeline:

Yes, the project demonstrated the success of using recycled tires as an environment-friendly road construction material.

Plans to use recycled materials in the construction of the Raleigh Outer Loop began six years prior to the project start date.

